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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -2 EXAMINATION- Oct 2018
M-Tech 1st Semester

COURSE CODE: 10M11CE112

MAX. MARKS:25

COURSE NAME: Estimation and Costing

COURSE CREDITS: 4

MAX. TIME: 1.5 Hrs

Note: All questions are compulsory. Carrying of mobile phone or sharing of materials during examinations will be treated as case of unfair means. Each question carries equal mark.

Q 1. Define rate analysis. State the factors affecting the rate analysis. Explain any one in details.

Q 2. Define task work. What is the task work for following items?

- P.C.C. 1: 4: 8 in foundation
- B.B. Masonry in super structure
- R.C.C. Slab in C.C. 1 : 1.5 : 3.
- 20 mm thick cement plaster in C.M. 1 : 6.

Q 3. An R.C.C. roof slab of overall size 6500 mm x 3000 mm and thickness 150 mm is provided with 12 mm diameters main bars bent up alternatively along shorter span and placed at 150 mm c/c. The distribution steel is of 6 mm diameters along longer span is provided at 200 mm c/c. The all round cover is 15 mm. Find out total quantity of steel. Prepare bar bending schedule. [use weight of steel as $d^2/162$ for one metre of steel bar]

Q 4. Calculate the quantities of earth-work in cutting and banking for a portion road with following data:

- Formation width of road is 12 m.
- Formation level of stationing chainage is 51.50 m.
- The road surface shall be given a falling gradient of 1 in 200
- Side slope are 1V : 2H in banking and 1V : 1.5H in cutting.

Chainage in m.	0	30	60	90	120	150	180
G.L. in m.	50.80	50.60	50.70	51.20	51.40	51.30	51.0

Use mid sectional area method.

Q 5. Prepare detailed data for cement concrete foundations – Rate per cu.m

Materials and labour required

Cement mortar 1:5 - 1m³

Cement -288 kg

Sand -1 m³

Mixing Charge -1 m³

Cement concrete (1:5:10) -10 m³

Broken stone 40mm size -9.7 m³

Cement Mortar 1:5 -4 m³

Mason II class -3 Nos.

Mazdoor I class -17 Nos.

Mazdoor II class -17 Nos.

(Cost of materials (supplied at site)

Cement - Rs.5100 per tonne

Sand - Rs.200 per m³

Broken stone 40mm size - Rs.600 per m³

Cost of labour

Mason II class -Rs.170/head/day

Mazdoor I class -Rs.130/head/day

Mazdoor II class -Rs.110/head/day

Mixing Charge -Rs.30 per m³